FlyBy Math™ Alignment
Sunshine State Standards, Benchmarks, and Grade Level Expectations Mathematics

Strand A. Number Sense, Concepts, and Operations

Standard 4: The student uses estimation in problem solving and computation.

Benchmark MA.A.4.4.1: *The student uses estimation strategies in complex situations to predict results and to check the reasonableness of results.*	***FlyBy Math*™ Activities** --Predict outcomes and explain results of mathematical models and experiments.

Strand B. Measurement

Standard 1:
 The student measures quantities in the real world and uses the measures to solve problems.

Benchmark MA.B.1.4.2: *The student uses concrete and graphic models to derive formulas for finding rates, distance, time, angle measures, and arc lengths.*	***FlyBy Math*™ Activities** --Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system. --Use the distance-rate-time formula to predict and analyze aircraft conflicts.

Standard 2: The student compares, contrasts, and converts within systems of measurement (both standard/nonstandard and metric/customary).

Benchmark MA.B.2.4.2: *The student solves real-world problems involving rated measures (miles per hour, feet per second).*	***FlyBy Math*™ Activities** --Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use the distance-rate-time formula to predict and analyze aircraft conflicts.

Standard 3. The student estimates measurements in real-world problem situations.

Benchmark MA.B.3.4.1: *The student solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, and estimates the effects of measurement errors on calculations.*	***FlyBy Math*™ Activities** --Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation. --Predict outcomes and explain results of mathematical models and experiments. --Predict the relative motion of two airplanes on given paths.

Strand C. Geometry and Spatial Sense

Standard 3: The student uses coordinate geometry to locate objects in both two and three dimensions and to describe objects algebraically.

Benchmark MA.C.3.4.2: *The student using a rectangular coordinate system (graph), applies and algebraically verifies properties of two- and three- dimensional figures, including distance, midpoint, slope, parallelism, and perpendicularity.*	**FlyBy Math^{TM} Activities** --Represent distance, speed, and time relationship for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system. --Interpret the slope of a line in the context of a distance-rate-time problem.

Strand D. Algebraic Thinking

Standard 1: The student describes, analyzes, and generalizes a wide variety of patterns, relations, and functions.

Benchmark MA.D.1.4.1: *The student describes, analyzes, and generalizes relationships, patterns, and functions through using words, symbols, variables, tables and graphs.*	**FlyBy Math^{TM} Activities** --Represent distance, speed, and time relationship for constant speed cases using linear equations and a Cartesian coordinate system. --Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.
Benchmark MA.D.1.4.2: *The student determines the impact when changing parameters of given functions*	**FlyBy Math^{TM} Activities** --Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.

Standard 2: The student uses expressions, equations, inequalities, graphs, and formulas to represent and interpret situations.

Benchmark MA.D.2.4.2: *The student uses systems of equations and inequalities to solve real-world problems graphically, algebraically, and with matrices.*	**FlyBy Math^{TM} Activities** --Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes. --Represent distance, speed, and time relationship for constant speed cases using linear equations and a Cartesian coordinate system.

Strand E. Data Analysis and Probability

Standard 1: The student understands and uses the tools of data analysis for managing information.

Benchmark MA.E.1.4.1:	*FlyBy Math*TM **Activities**
The student interprets data that has been collected, organized, and displayed in charts, tables, and plots.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.